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The present invention relates to a microlithography objective and, more particularly, to a microlithography projection objective for short wavelengths, preferably $\leq 193\text{nm}$, a projection exposure system that includes such a microlithography projection objective, and a chip manufacturing process that employs such a projection exposure system.

IN THE ABSTRACT

Please delete the abstract in its entirety, and replace it with the version provided below.

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There is provided a microlithography projection objective for short wavelengths, with an entrance pupil and an exit pupil for imaging an object field in an image field, which represents a segment of a ring field, in which the segment has an axis of symmetry and an extension perpendicular to the axis of symmetry and the extension is at least 20mm. The objective comprises a first (S1), a second (S2), a third (S3), a fourth (S4), a fifth (S5) and a sixth mirror (S6) in centered arrangement relative to an optical axis. Each of these mirrors have an off-axis segment, in which the light beams traveling through the projection objective impinge. The diameter of the off-axis segment of the first, second, third, fourth, fifth and sixth mirrors as a function of the numerical aperture NA of the objective at the exit pupil is $\leq 1200 \text{ mm} * \text{NA}$.

IN THE CLAIMS

Please amend the claims to read as indicated herein. A version of the amended claims with markings to show changes made is included at the end of this document.

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1. (Amended) Microlithography projection objective for short wavelengths, with an entrance pupil and an exit pupil for imaging an object field in an image field, which represents a segment of a ring field, wherein the segment has an axis of symmetry and an extension perpendicular to the axis of symmetry and the extension is at least 20mm, comprising:
a first (S1), a second (S2), a third (S3), a fourth (S4), a fifth (S5) and a sixth mirror (S6) in centered arrangement relative to an optical axis,